ABSTRACT OF THE DISCLOSURE

A loop filter and a method for adjusting its compensating current to make a control voltage of the loop filter more stable. The loop filter includes a charge/discharge path for receiving a control current and constituted by a first resister and a capacitor, a second resistor connected to the first terminal of the first resistor, an OP amplifier having an output terminal connected to the second resistor, a first input terminal connected to the capacitor, and a second input terminal, and a compensating unit connected to the output and second terminals of the second resistor. The loop filter further comprises a current source to provide a compensating current to the compensating unit. The loop filter utilizes the compensating unit to compensate the offset between the two input terminals of the amplifier. Therefore, the loop current of the OP amplifier can be reduced or eliminated.